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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/652,485 | 08/31/2000 | Raj P. Singh | 00-2-025 | 2893 |

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 10/16/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

MS/2

| | | | |
|------------------------------|--|-------------------------------------|--|
| Office Action Summary | Application No. 09/652,485 | Applicant(s) SINGH ET AL. | |
| | Examiner George P Wyszomierski | Art Unit 1742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 3-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

1. The examiner has obtained a complete translation of Japanese document 10-188970, published July 21, 1998, a copy of which is enclosed herewith. A new ground of rejection is being made based upon this translation. Thus, the Final Rejection mailed March 25, 2002 is withdrawn, and a new Office Action follows.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamada et al.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10-188970.

Initially, the examiner notes that the instant claims are drawn to heterogenite powder (also known as HCoO_2 or CoOOH) having a surface area within a specified range, and contain no further limitations. While the claims are not construed by the examiner as limited by the

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specific mechanisms discussed in the specification, page 3 of the specification indicates that one way to produce the inventive product is to dry $\text{Co}(\text{OH})_3$ at 110°C , and that heating at a higher temperature, e.g. 150°C , results in the production of Co_3O_4 .

Yamada and JP '970 disclose heterogenite powder materials, but do not specify the surface area of their respective materials. The prior art forms their respective heterogenite material by heating to a temperature as indicated on page 3 of the present specification; see Yamada column 3, line 59, or paragraph [0010] of the translation of '970. Additionally, example 1 of Yamada begins with a cobalt compound having a H/O ratio of 1.15/ 2.07 prior to heating. The further examples of Yamada indicate that with increasing heating temperatures, the amounts of hydrogen and oxygen in the compound decrease, as indicated below.

| <u>Yamada example</u> | <u>Heating temperature ($^\circ\text{C}$)</u> | <u>H/ O ratio (after heating)</u> |
|-----------------------|--|-----------------------------------|
| Prior to heating | None | 1.15/ 2.07 |
| 1 | 90-100 | Not stated |
| 3 | 150 | 0.68/ 1.79 |
| 5 | 200 | 0.51/ 1.67 |
| 2 | 300 | 0.19/ 1.46 |
| 4 | 500 | 0.02/ 1.34 |

From the above table, it is logical to conclude that example 1 of Yamada would possess a H/O ratio somewhere near the 1/ 2 ratio present in a perfect heterogenite powder.

Next, considering JP '970, paragraph [0010] of that reference discloses adding sodium hydroxide aqueous solution to a powder containing $\beta\text{-CoOOH}$ and heating to $50\text{-}200^\circ\text{C}$. Then, paragraphs [0014] - [0017] discuss certain aspects of this process, including the observation in paragraph [0017] that heating to a high temperature results in the production of Co_3O_4 . This is the same phenomenon as observed by Applicants at page 3 of the specification.

Because the prior art materials appear to be of the same chemical composition and produced in substantially the same manner as the inventive material, the examiner's position is that the prior art materials are substantially identical to those as presently claimed (within the meaning of 35 USC 102), absent evidence to the contrary.

At the very least, the examiner's position is that one of ordinary skill in the art would be aware of the relationship between surface area and such parameters as particle size, density, and packing factors. Further, one of ordinary skill in the art would have been able to control the particle size of the heterogenite material obtained in the prior art through control of one or more of these parameters. Therefore, the making of heterogenite materials of a given surface area, such as the surface area recited in the instant claims, would have been well within the level of one of ordinary skill in the art, given the disclosures of Yamada or JP '970.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for this Group is (703) 872-9310. The Right fax number for this examiner is (703) 872-9039. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

GPW
October 15, 2002